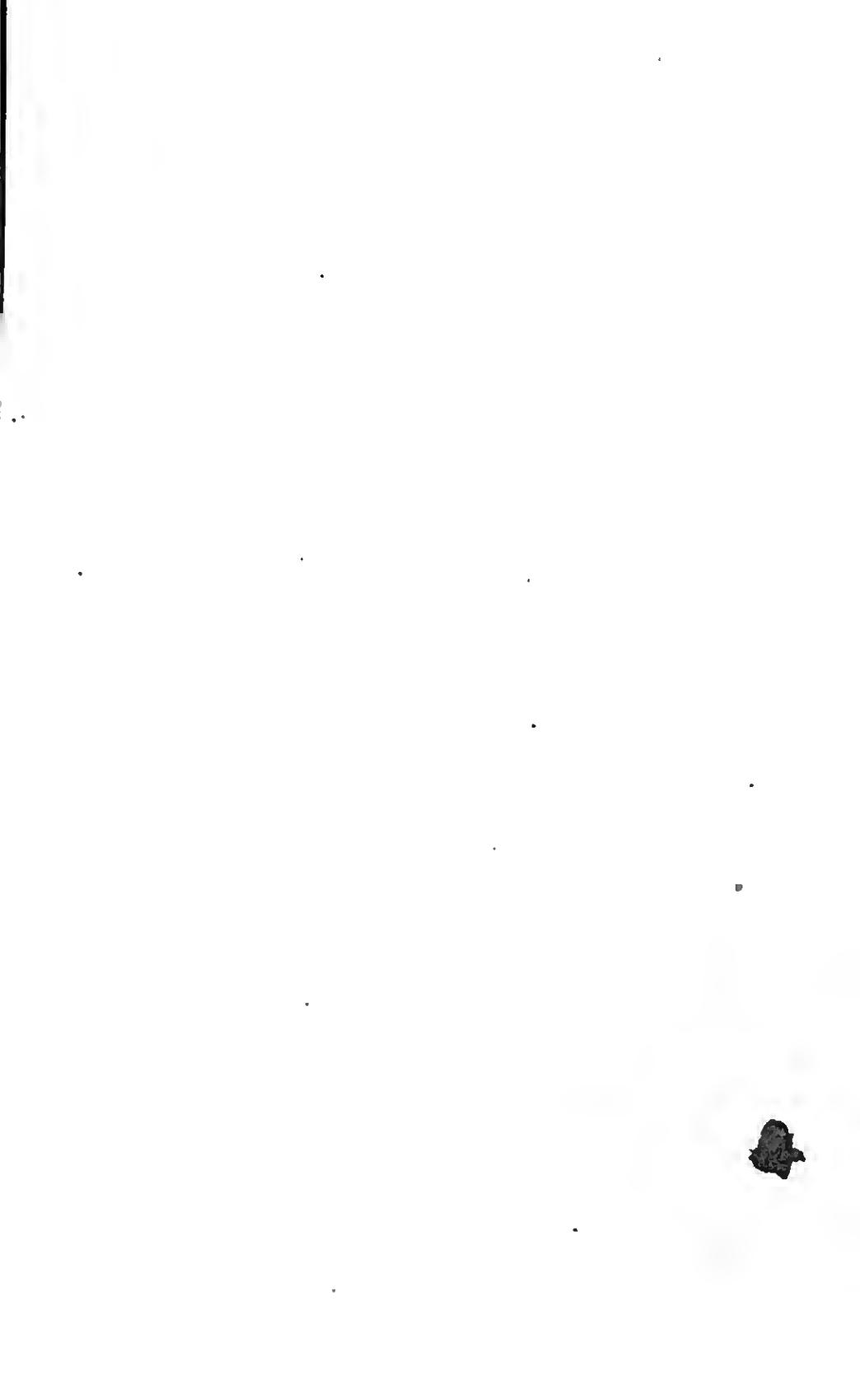


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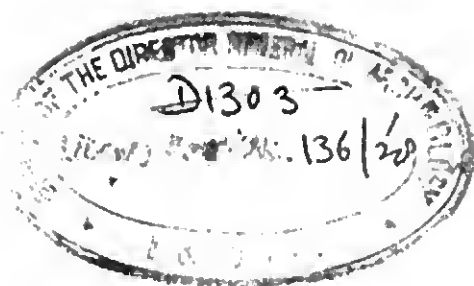
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INDIAN ARCHITECTURAL TERMS

ANANDA K. COOMARASWAMY

MUSEUM OF FINE ARTS, BOSTON

ACHARYA, P. K., *Indian Architecture According to the Mānasāra-silpaśāstra*, pp. iv, 268, index: *A Dictionary of Hindu Architecture*, pp. xx, 861, index. Both printed in Allahābād, published by the OXFORD UNIVERSITY PRESS, and without date (1927 or 1928).

These two volumes, the latter especially, are monumental works, and will be indispensable to every student of Indian architecture and *realia*. Only those who work along these lines will realise the great labour involved in the preparation of such books, especially when they are almost the first of their kind; the serious study of the Indian *śilpa-śāstras* has been too long delayed, and a warm welcome may be extended to the Professor's undertaking. The author, nevertheless, has neglected a good deal of work that has been done in this field; surprising omissions in the references, for example, are Rao, *Tālamāna*, Jouveau-Dubreuil, *Archéologie du Sud de l'Inde*, and texts such as the *Viṣṇudharmottara* and *Silparatna*. Moreover the author is too little, if at all, acquainted with the actual buildings; otherwise, indeed, he could not have remarked that the buildings and sculptures of the time when the text of the *Mānasāra* was composed "have all been destroyed," overlooking the fact that sculptures and buildings of this and earlier periods survive in thousands, and that a very great deal of exact information about the early architecture can be gathered from the Śuṅga, Kuṣāna, and Andhra reliefs. I have myself in preparation a work based on this early material, which can and necessarily will be very fully illustrated. Jouveau-Dubreuil had the immense advantage of a thorough knowledge of the actual architecture, and of personal contact with living *śhāpatīs* able to explain the meaning of technical terms; without these qualifications Professor Acharya has attempted an almost impossible task, for here book-learning, however profound, is insufficient.

The following notes, however, are meant to be a further contribution to the subject and an acknowledgment of the value of what the Professor has already accomplished, rather than further criticism.

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As of most general interest I would call attention to the items *Ābhāsa*, *Candra-sāla*, *Hasti-nakha*, *Kuṭāgāra*, *Likh*, *Linga*, *Nāraca*, *Tulā*. I should also like to emphasize the fact that a study of the early use of the words which later appear as established technical terms in the *Silpa-sāstras* is of great value for the study of architectural history. There is still very much to be accomplished in this direction.

Ābhāsa: together with *ardha-citra* and *citrābhāsa* are completely misunderstood. Neither of these is a material, but as explained by Śrīkumāra, *Silparatna*, Ch. 64, vv. 2-6 (see my translation in the *Sir Ashutosh Mookerjee Memorial Volume*), and by Rao, *Elements of Hindu Iconography*, I, p. 52, citing the *Suprabhedāgama*, a method. Both the *Mānasāra* and *Suprabhedāgama* as cited by the Professor himself are perfectly clear on the point; as the matter is important, I quote the latter:

Sarvāvayava-sampūrṇaṁ dṛśyaṁ tatra citram ucyate

Ārdhāvayava-saṁdṛśyam ardha-citraṁ eva ca (sic).

Paṭe bhittāu ca yo(al) likhyaṁ citrābhāsam ihocyate (sic).

The mistake about *ābhāsa* has led to the extraordinary view (Dict. p. 65, l. 3) that *ālekhyā* is also a material. *Citra*, in fact is divided into *citra*, *ardha-citra*, and *citrābhāsa*, respectively sculpture in the round, reliefs, and painting. In *Indian Architecture*, p. 70, in the same connection *sarvāṅgadṛśyamāna*, rendered "quite transparent," really means "in which all the parts of the body are visible." Of course, there are many cases where *citra* by itself is used to mean painting, but some of these need critical examination; for example *citrāṇi maṇḍalāni* of *Cullavagga*, V, 9, 2 does not mean "painted circular linings," as rendered in *S. B. E.*, XX, but simply "carved bowl-rests."

Ādhāra: add the meaning, "reservoir," *Arthaśāstra*, III. 8 (Meyer).

Ādhiṣṭhāna, plinth: Mukherji, *Report on the Antiquities of the District of Lalitpur*, 1890, describes and illustrates the various parts and mouldings. A few diagrams of this kind would have greatly enhanced the value of the *Dictionary*.

Ājira: a courtyard, see Geiger, *Mahāvamsa*, Ch. XXXV, 3 and transl., p. 246.

Ālambana-bāha: the balustrade, *vedikā*, of a stairway, *sopāna*, *Cullavagga*, V, 11. Cf. *hasti-hasta*. *Ālambana*, per se, is the plinth of a railing or balustrade.

Ālekhyā: not in the *Dictionary*. See above under *ābhāsa*. The working drawing, on cloth, for the *Lohapāsāda* is thus designated in the *Mahāvamsa*, Ch. XXVII, 10. *Ālekhyā-sthāna* is a space left in a manuscript for the subsequent insertion of an illustration.

yal lekhyam.

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Alinda: balcony, gallery. *Cullavagga*, VI, 3, 5, glossed *pamukha* = *pramukha*: ib. VI, 14, 1, described as *hatti-nakkham*, see *hastinakha*. In *Mahāvamsa*, XXV, 3, the rendering of *alinda* as "terrace in front of a house door" (Geiger, *Mahāvamsa*, p. 246, note 2) seems very questionable.

Amalaka: not in the *Dictionary*, though discussed in the other volumes, p. 179, where *kalāṣa*, "vase" (finial) is misrendered "dome."

Not in the *Mānasāra*, and the suggested equivalent *mūrdhni-īṣṭaka* seems a little questionable. I doubt if an example as finial could be cited before the Gupta period, when it can be seen on the reduced edifices of the Sārnāth lintel (Sahni, *Catalogue*, pls. XV-XXVI); but these imply an already well-established tradition. The form is already employed architecturally in connection with pilasters represented at Amarāvati. In *Cullavagga*, VI, 2, 4 a kind of chair is termed *amalaka-varṣika-piṭṭham*, and this is glossed by Buddhaghosa as "having large amalaka-formed feet attached to the back." The translation "many feet" of *S. B. E.* XX, 165, cited by Acharya without comment, can hardly be justified, though Buddhaghosa's *bahupāda* suggests it at first sight. Amongst the countless representations of chairs and couches in Indian art of all periods I cannot think of a single example with more than four legs.

Angana: applied to the enclosure surrounding a stūpa, i. e. the circumambulation-platform between the stūpa and its railing, *Dhammapada Atthakathā*, 290 (Bk. 21, Story 1, Burlingame, H. O. S., vol. 30, p. 175).

Anivedra: *Arthasāstra*, II, 3, and III, 8. Meyer renders "sidedoor," Shamasastry "front door." In III, 8, the latter meaning would seem to be indicated, as only one door is mentioned, and the window above it is referred to. In the early reliefs we see no side doors to ordinary houses, while there is generally a window above the single (front) door.

Aratni: add references to *Kauṭīliya Arthasāstra*, II, 20, with a table of measurements practically identical with that of the *Mānasāra*. In *Arthasāstra* II, 5, the rain gauge (s. v. *kuṇḍa* below) is to be an *aratni* in width, i. e. 2 spans (*vitasti*) or 24 *angulas*.

Argala: Pali *aggala*, Sinhalese *agula*, a bolt. See under *dvara*, below.

Arghya: not in the *Dictionary*. In *Mahāvamsa*, XXX, 92, Geiger's rendering of *agghiya* as "nrches" is impossible. *Agghiya-paṇṭi* may be rows of garlands or awags, a common enough ornament, or more likely rows of vessels of some kind; *phalīkagghiya* must be a crystal dish or platter, as it has four corners in which are placed heaps (*rūsiyo*) of gold, gems, or pearls—but more likely we should understand *phalak-agghiya* and translate as "wooden offering table" or "altar." In any case "four corners" has no meaning in connection with any sort of known *torāṇa*. *Agghika* of *Mhv.* XXXIV, 73 is more doubtful,

perhaps here equivalent to altars or reredos (Sinh. *wahāḥ-kaḍ*). See also *agghiya*, *agghika* in P. T. S. Pali Dictionary.

Aryaka-stambha: not in the Dictionary: but see under *avesanin*, below, and Dictionary, p. 669.

Asandi, a throne, seat: *Atharva Veda*, XV, 3 (see Whitney, in *H. O. S.*, Vol. VIII), where the various parts are named; the description suggests the types still seen at Amarāvati.

A detailed nomenclature of seats will be found in *Cullavagga*, VI, 2. Cf. *ib.*, VI, 14, also *Brahmajāla Sutta*, (*Dialogues*, I, p. 11, note 4).

Pace S. B. E. XVII, p. 27, it is by no means demonstrable from *Jātaka* I, 108, that *āsandi* means "cushion"; Cowell's "couch" is undoubtedly correct, and this is the sense everywhere else. To suppose a chair or couch placed in a cart presents no difficulty.

Aṭṭha: watch-towers or gate-towers, *Milindapañha*, V, 4. *Gopuraṭṭha*, *Mahāvamsa*, XXV, 30. *Gopuraṭṭhāga*, *Uttarādhyayanāsātram*, IX, 18, Charpentier, pp. 97, 314.

Avasaka: *osaraka* (Pall) (? that which sheds water) overhanging eaves (of a building without veranda, *andanda*), *Cullavagga*, VI, 3, 5: glossed as *chadana-pamukhaṃ*, "projecting from the roof." *Osāraka*, "under the eaves," i. e. outside the house, *Jātaka*, III, 446. Cf. modern *chajja*.

Avesanin: not in the Dictionary; architect, foreman. Inscription on Sāñci south toraṇa, "Gift of Ananda, son of Vāsīṣṭhi, *avesanin* (rendered "foreman of the artisans") of Rāja Śrī Śātakarpi" (Marshall, *Guide to Sanci*, p. 48). *Āyaka* (*āryaka*)-*stambhas* dedicated by Siddhārtha son of Nāgacanda, both *avesanins* (Burgess, *Notes on the Amaravati Stupa*, p. 56); *avesa* is stated to mean a workshop, atelier.

Ayas: not in the Dictionary. This word is always used for iron (see *loha*, below). *Mahāvamsa*, XXV, 28, *ayo-kammata-dvāra*, "iron studded gate" (of a city); *ib.*, 30, *ayo-gulāṃ*, "iron halls"; *ib.*, XXIX, 8, *ayo-jāla*, an iron trellis used in the foundations of a stūpa. Reference might have been made to the iron pillars at Delhi and Dhar, and the use of iron in building at Koprak.

Bodhi-ghara, *mahābodhi-ghara*: temples of the Bodhi-tree, presumably like the many examples illustrated in the early reliefs. No doubt a pre-Buddhist form, preserved in connection with the cult of the Bodhi tree. See *Mahāvamsa*, XXXVI, 55, XXXVII, 31, etc.; in the former place provided with a sand court, *edlikāṭala*; *ib.*, XXXV, 89 *aṅgana*. Also called a *maṇḍapa*, *ib.*, XVIII, 63.

Bodhi-maṇḍa (*la*): is treated as synonymous with *vajrasana*, but is really the especial area within which the *vajrasana* is established; see Hsiang Tsang as cited by Watters, II, 114, 115.

Candra (*-śālā*), etc.: some useful material is contributed towards a solution of the problem of the proper designation of the so-called "caitya-window" (dormer or attic window, gable, etc.), one of the

commonest and most distinctive motifs recognizable in Indian architecture from first to last. "Coltya-window" is unsatisfactory, as the form is by no means peculiar to, nor can it have been originally devised expressly for coltya-halls; the gable form is derived from that of an ordinary barrel-vaulted house end. *Toraṇa* is perhaps correct in so far as the window is actually an arch, *vātāyana* in so far as it is a window, but neither is sufficiently specific. The problem is a little complicated by the fact that we have to do both with arched windows actually admitting air to upper chambers, dormers, or attics, with real internal space, and also with similar forms used decoratively and placed in series on cornices or similarly used in friezes; but the various architectural forms, complete figures, or heads (see also *gandhorva-mukho* and *grha*) which appear framed in the niche formed by the window-arch prove that the idea of an opening to internal space is always present. The best established word is Tamil *kāḍu* (Jouveau-Dubreuil, *passim*), but there seems to be no similar word in Sanskrit; *kāḍu* means nest, and it applies both to the window as an ornament, and to actual pavilions (*kaṇṇa-kāḍu*, Jouveau-Dubreuil, *Dravidian Architecture*, fig. 4). The proper term in Sanskrit seems to be *candra-sālā* (see s.v. in the *Dictionary*), meaning either a gabled chamber on or above the *kapota* (for which *candra* is given as a synonym), or the gabled window itself. In the last case *candra-sālā* should really be an abbreviation of *candra-sālā-vātāyana*, and this seems to be the most explicit designation: "gable-window" is probably the best English phrase, German *dachfenster*.

A number of passages seem to show also that *govākṣa* may be synonymous with *candra-sālā-vātāyana*. Thus in *Raghuvamśa*, VII, 11, the *govākṣas* are crowded with the faces of beautiful young women looking out, and ib. XIX, 7, Agnivarman is visible to his subjects only to the extent of his feet hanging down from the *govākṣa*. The modern vernacular equivalent is of course *jharokha*.

The many-cusped arch, known to modern Musalman masons as *piyaliddr mīhrāb*, and familiar in Rajput, Mughal, and modern Indian architecture, is a development of the "horse-shoe" arch (gable window) which has rightly been regarded as of Indian, pre-Muhammadan invention (Rivolra, *Moslem Architecture*, p. 110 f); every stage in the evolution can be followed. Cusped arches are found already in Java by the eighth century (Borohudur); there is an excellent example at the Gal Vibārē, Polonnaruwa, Ceylon. It would take too much space to treat this interesting subject at length here, but it is worth while to note that Mukberji, *Antiquities of the Lalitpur District*, I, p. 9, gives the Indian terminology; the "parts of the so-called Saracenic (five-foiled) arch, are all Hindu." These names are, for the spring of the arch, *nāga* (cf. *nāga-bandha* in the sense of chamber-stop); for the foils or cups, *kaṣṭhā*; and for the top, *cākkā* (? = *cūlikā*, q.v. in *Dictionary*).

Caṅkrama: cloister, monk's walk, at first perhaps only paved, later roofed and railed (*Cullavagga*, V, 14, 2, 3). *Caṅkamana-sālā*, "hall in a cloister," *Cullavagga*, V, 14, 2 and *Mahāvagga*, III, 5.

Cetiya-ghara: in *Mahāvamsa*, XXXI, 29, and 60, 61, *cetiya-ghara* is a structure built over a stūpa, *thūpaṃ tassopari gharāṃ*. Some have seen evidence of such a structure in the still standing tall pillars surrounding the Thūpārāma Dāgaba at Anurādhapura, and this interpretation seems to be plausible, especially as the pillars are provided with tenons above. An actual example of a stūpa with a roof over it, supported by four pillars, can be seen at Gaḍalādeniya, near Kandy, Ceylon. The old *cetiya-halle* are also, of course, *cetiya-gharas*, and of these there existed also many structural examples.

"Thūpaghara . . . is simply a house over a tope" (Hocart, A. M., *Ceylon Journ. Science*, G., Vol. I, p. 145).

Channavātra: some description might have been given of this very common ornament, found from pre-Mauryan times to the present day. See Rao, *Elements of Hindu Iconography*, I, p. xxxi, and M. F. A. Bulletin, No. 152, p. 90. The *channavātra* passes over both shoulders and both hips, crossing and fastening in the middle of the breast and middle of the back; it is worn by deities and men, male and female, and occurs also in Java.

Citra: art, ornament, sculpture, painting, see above under *abhāsa*. *Citra*, *citra-karma* do not always mean painting. Some places where the word occurs and has been so translated need re-examination; for example, *Cullavagga*, V, 9, 2, *citrāṇi maṇḍalāṇi* does not mean "painted circular linings," but rather "carved bowl-rests." Some references should be given to *citra-sabha*, *citra-sāla* which are of very common occurrence in the sense "painted hall or chamber." The *citta-sabha* of Jacobi, *Ausgewählte Erzählungen*, p. 39, has a high tower (*uttunga sihaḍ*). Description of a *citta-sabha* cited from the *Uttarādhyayana Sūtra*, Meyer, *Hindu Tales*, p. 174. *Cittagāra*, in *Sutta Viṭṭhaṅga*, II, 298.

Cūlikā: as something at the top must be connected with *cūḍā*. But in *Mānasāna*, L, 301, (*Dict.*, p. 197), *lamba-hāram api cūlikādibhiḥ*, *cūlikā* must be "bodice," and synonymous with *colāka*.

Daraninavami-sālā: not in the *Dictionary*. A square stone (or rarely bronze) slab or box divided into nine compartments in which are placed symbols connected with water, the whole being laid below the foundations of a temple or below an image (*A. S. I., A. R.*, 1903-04, p. 98, note). This object is known in Ceylon as a *yantra-gala*, where several examples have been found (Parker, *Ancient Ceylon*, pp. 298, 658; *Mem. Colombo Museum*, Series A, I, p. 25).

Devakula: in the *Avadāna-śataka* (Feer, p. 98), used of a temple of Nārāyaṇa. See also *A. S. I., A. R.*, 1911-12, p. 124. *Devakula* of

the Nāga Dadhikarṇa, Mathurā Inscription, Lüders' List, No. 03. Inscription of Loṇāśohhikā on Mathurā *dyāgapaṭa*, see VI Int. Congr. Orientalists, III, p. 143.

Dhavalā, whitening: applied to a plastered or other surface, *Silparatna*, Ch. 64. *Dhavalā-hara*, a "White House," palace, Haribhadra, *Sanat-kumḍracarita*, 548, 599, 608.

Drupada: a post, *Rg Veda*, 3, 32, 33. The whole passage is very doubtful, but apparently two horses are compared to carved figures of some kind (brackets?) upon a wooden post.

Dvāra: the parts of a door are listed in *Cullavagga*, V, 14, 3, also *ib.* VI, 2 (not quite correctly translated in *S. B. E.*, XX, p. 106), as follows: *kavāṭa*, the leaves; *piṭṭhasaṃghāṭa*² (= Sanskrit *prasthā-saṃghāṭikā*, "upstanding pair"), the door-posts; *udukhallikā*, threshold; *uttarapāsaka*, lintel; *aggalavaṭṭi*, bolt-post; *kapi-sisaka*, bolt (-handle); *sūcika*, the pin or part of the *kapi-sisaka* which fits into the socket in the bolt-post (cf. *sūci* = cross-bar of a *vedikā*); *ghaṭikā*, apparently the slot in the bolt-post just referred to; *tālacchidda*, key-hole; *dvīñchanacchidda*, string-hole; *dvīñchana-rajjū*, string for pulling the leaves to from outside preparatory to locking. Some of these terms occur elsewhere; with reference to a passage in the *Mahāparinibbāna Sutta* where Ananda leans against the *kapi-sisaka* Buddhaghosa is certainly right in glossing *kapi-sisaka* as *aggala*, for the Sinhalese *agula* is big enough to lean against (see my *Mediaeval Sinhalese Art*, figs. 80-82, for illustrations, *ib.* p. 133, for the Sinhalese terminology). As in so many other cases the terms are perfectly comprehensible when the objects have been seen as represented in relief, or in use, and when the modern technical terms are known.

As correctly observed in *S. B. E.*, XX, p. 160, *dvāra* is "doorway," "aperture," always with reference to outer doors or gates of any building, or of a city, while *kavāṭa* means the leaves of a door, the door itself.

See also under *grha*, and cf. Robert Knox's description of the palace of Rāja Sinha II, "stately Gates, two-leaved . . . with their posts, excellently carved."

Bahi-duḍḍa-sālā = *bahir-dvāra-sālā*, "outer room," "gate chamber," *Mrochakaṭṭhika*, III, 3.

From RV. I, 51, 14 we get *duryo yūpaḥ* for the door posts, from RV. I, 113, 14 *dātā* for the door leaves, and from RV. III. 61. 4 a thong (*syāman*) fastening.

Dvāra-bāhā: door posts, *Mahāvamsa*, XXV, 38: *ayo-dvāra*, *ayo-kammata-dvāra*, *ib.* XXV, 28, 29, 32.

Dvāra-koṭṭhaka, gate house: *oittakūṭa dvāra-koṭṭhaka*, etc., "a gate-house

² See *S. B. E.* XX, p. 105, note 2.

with a decorated peak, and surrounded by statues of Indra, as though guarded by tigers," *Jātaka*, VI, 125: cf. *Dhammapada Atthakathā*, Bk. 2, story 7.

For *koṭṭhaka* see also *Cullavagga*, V, 14, 4 and VI, 3, 10; *Jātaka*, I, 351 and II, 431; and Meyer, *Arthaśāstra*, p. 75, note 5 (in the sense of "shrine"). *Koṭṭhaka* is usually "gatehouse," but *piṭṭhi-koṭṭhaka* is "back-room" in *Dhammapada Atthakathā*, II, 19.

In *Jātaka* I, 227, *dvāra-koṭṭhaka* is, as usual, gate-house, not as interpreted in S. B. E. XVII, 219, 'mansion' (the 'mansion' is *ghara* and it has seven *dvāra-koṭṭhakas*).

Gāirika: red chalk. *Cullavagga*, V, 11, 6, *goruka*, red coloring for walls. Medium red color, *Sūparatna*, Ch. 64, 117. Brown, *Indian painting under the Mughals*, p. 124 (used in preparing the *lekhani* or pencil). Used as rouge, *Karpūramanjari*, III, 18, see H. O. S., Vol. 4, note on p. 268. As a pigment, *dhātu-rāga*, *Meghadūta*, 102. *Garuka*, *Cullavagga*, V, 11, 6, VI, 3, 1, and VI, 17, 1. *Mahāvagga*, VII, 11, 2.

Gaṇḍa-bheraṇḍa: insufficiently explained by the cross-reference to *stambha*. The two-headed eagle, a gigantic bird of prey, is first found in India on a Jaina stūpa base at Sirkap (Marshall, *Guide to Taxila*, p. 74). In mediæval art two forms appear, analogous to those of *garuḍas*, one with a human body and two bird heads, the other entirely bird. Connected especially with the kings of Vijayanagar, and appearing on their coins, carrying elephants in its claws. Other examples at Śrīśīlām (A. S. I., A. R., *Southern Circle*, 1917-18); remarkable panels at Koramaṅgala and Belūr, *Chāṅkya* (*Mysore A. S. Rep.*, 1920, and Narasimachar, *Keśava temple at Belūr*, p. 8). A common motif in south Indian jewellery. In Ceylon, see my *Mediæval Sinhalese art*, p. 85. Cf. also *hatthilinga-sakuna*, *Dhammapada Atthakathā*, I, 164. Further references will appear in the *Boston Catalogue of Mughal Paintings*.

Gandha-kuṭi; see s. v. *Kuṭi*.

Gandharva-mukha: designation of the busts or faces framed in the openings of *kāḍu*, *candra-sālā-vātāyana*, or *gavākṣa*, gable windows (Jouveau-Dubreuil, *Dravidian Architecture*, p. 12). Cf. *canda-muha*, s. v. *candra-sālā*.

Gavākṣa: see *Candra*, *Gandharva-mukha*, *Gṛha*, and *Harmya*.

Gṛha, *ghara*, *āgāra*, *geha*, etc.: there is an excellent description of Vasantasenā's house (*geha*, *bhavana*) in the *Mycchakaṭika*, IV, 30, seq. There are eight courts (*paṭṭha* = *prakṛṣṭha*);³ above the outer door (*geha-dvāra*) is an ivory toraṇa, supported by toraṇa-dharaṇa-*thambha*, and stretching up its head (*śisa*) towards the sky; at each side are festival jars (*māṅgala-kalasa*)—"Yes, Vasantasenā's house is a beautiful thing." In the first court are *pāsāḍa-panti*, rows of pavilions, having stairways (*sobhāṇa*), and crystal windows (*phaṣi-*

³ Pāli *pakusṣa*, *Cullavagga* VI, 3, 5 is rendered "inner verandahs" in S. B. E., XX, p. 175.

vāḍa = *sphaṭika-vātāyana*) with moon-faces (*muhe-cande*), or probably "faces on the candra," i. e. *gandharva-mukhas* framed in the *candra-sāla-vātāyanas* ornamenting the roll-corulce, for which the description "seeming to look down upon Ujjayini" would be very appropriate. In the third court are courtizans carrying pictures painted in many colors, *vivihavanni-avalitta citraphala* = *vividhavarṇikāvalipta citraphalaka*. In the fourth court, where music and dancing take place, there are water-coolers (*salila-gagario* = *salilagargarayaḥ*) hanging from the ox-eye windows (*gavakkha* = *gavākṣa*).

Tisalā's palace in the *Kaipā Sūtra*, 32, is a *vāsa-ghara*, dwelling place; it is *sacitta-kamme*, decorated with pictures, and *ullaya-cittiya*, has a canopy of paluted cloth (cf. Pāli *ulloka*).

Milindapañha, II, 1, 13 has "As all the rafters of the roof of a house go up to the apex, slope towards it, are joined together at it."

The famous triumph song of the Buddha (*Nidānakathā*, *Jātaka*, 1, 76 = *Dhammapada*, 154) has "Broken are all thy beams (*phāsuka*), the housetop (*gaha-kūṣa*) shattered": the housebuilder is *gaha-kāraka*.

See also *Bodhighara*, *Cetiya-ghara*, *Cittāgāra*, *Dhavaḷa*, *Kāṣṭhāgāra*, *Samudrāgāra*, *Santhāgāra*.

Harmya: *ramyaṁ harmyam*, a beautiful palace, *Vikrama Carita* (Edgerton, text and transl. in *H. O. S.* 26, p. 258, and 27, p. 239) has the following parts: *mūlapratīṣṭhāna*, basement; *bhitti-stambha-dvāra-toraya*, walls, pillars, doorways and arches; *sālabhañjikā*, statues; *prāṅgaṇa*, courts; *kapāṣa*, folding doors; *parigha*, door-bars; *valabhi*, roofs; *viṣaṅka*, cornices; *nāga-danta*, pegs; *matlavāraṇa*, turrets; *gavākṣa*, ox-eye windows; *sopāna*, stairs; *nandiyāvartādi-grha*, pavilions (!) (see *Dictionary*, s. v.). *Harmikā*, the little square structure on the top of a *stūpa* (*Divyāvadāna*). A cross reference to *rāja-harmya* should be given in the *Dictionary*.

Harmya, dwelling, *Atharva Veda*, XVIII, 4, 55; RV. I, 121, 1, I, 106, 4, VII, 50, 16, etc.

Savitāna-harmya, *Raghuvamśa*, XIX, 39, "palace with an awning"; or perhaps *vitāna* = modern *chajja*.

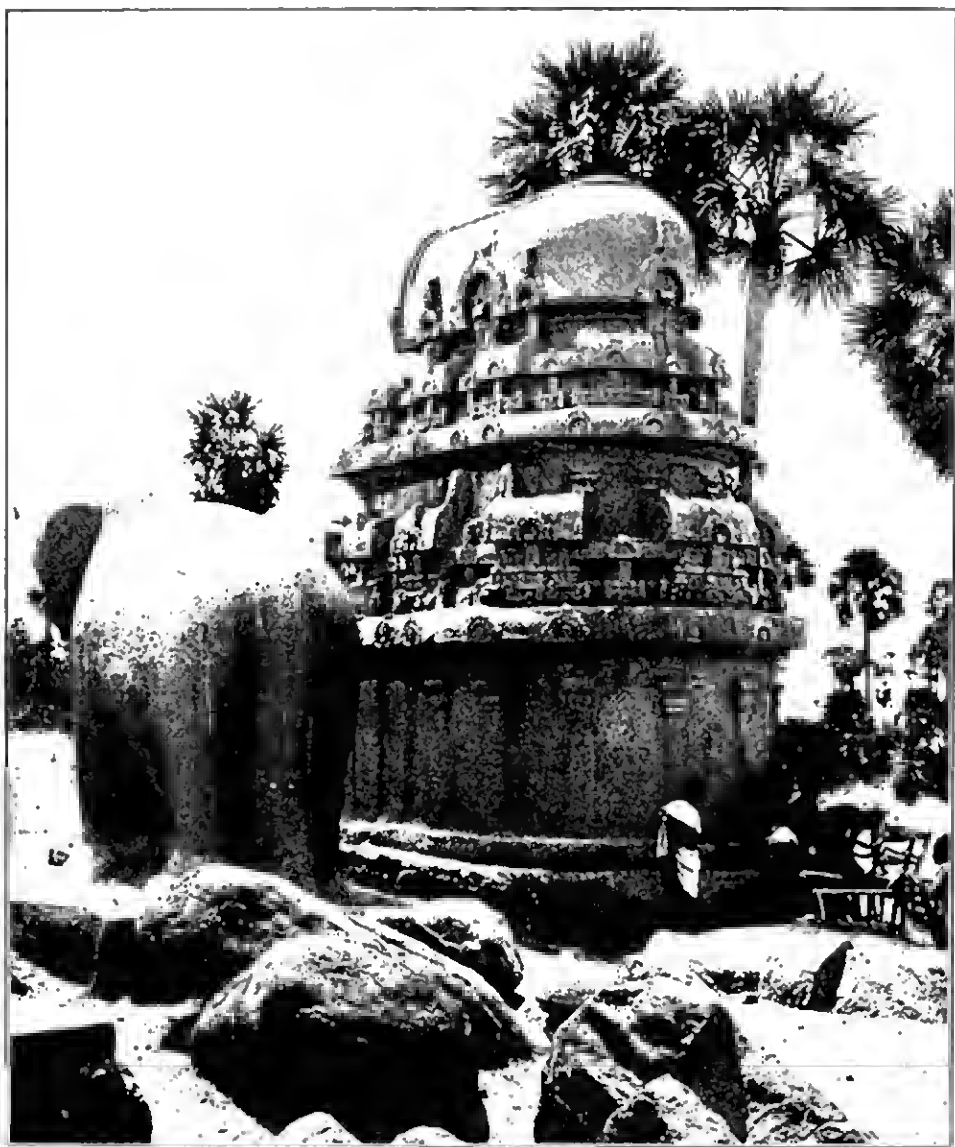
Hasti-hasta, *gaja-hasta*: amongst innumerable examples might be cited also at Nārāyaṇpur, Burgess, A. S. W. I., III, pl. XXXI, 3. Elephant-trunk balustrades in Ceylon are *ḥi-hoṇḍa-veḷ*, with the same sense as *hasti-hasta*.

Hastinakha: literally "elephant's nail." In *Cullavagga*, VI, 14, 1 a *pāsāda* having an *ālinda* (balcony, gallery), qualified as *hatthi-nakhakam*, is a permitted monastic residence. According to Buddhaghosa's gloss this means *hatthi-kumbha patipīṭhitam*, literally "supported on elephants' frontal globes," and so to be rendered "supported by pillars having elephant capitals"; and this is plausible enough,

* But see *Parikhā*, usually, and perhaps here also, a moat.



Entrance of *kela-cetiya-ghara* at Begsā:
hasti-nakha column on left supporting *danda*.



RATHA OF NAKULA AND SAHADEVA, MĀMALLAPURAM.

Hasti-prashna construction (cf. back of elephant on left): shows also *pañjaras*,
and *kapotas* with *kāḍus*.

as pillara with elephant capitals, supporting galleries and upper storeys, are highly characteristic of early Indian architecture. It is true that one hesitates to accept *nakha* in any other sense than that of "nail" or "claw." But it is possible to retain the interpretation "elephant capital" without supposing that *nakha* = *kumbha*, for in fact the observer, standing at the foot of such columns, e.g. at Beṣā (see accompanying Plate), and looking upwards, sees nothing of the actual capital, except the under sides and nails of the fore feet of the elephants, which project beyond the edge of the abacus, and this may well have given rise to the term "elephant's nail" as applied to elephant capitals.

On the other hand, *hasti-nakha* occurring in the *Śiṣupālavadha*, III. 68, *Sanairanīyanta rayūpatanto rathāḥ kṣitīm hastinakhāt . . . turaṅgaib*, "the swift chariots are slowly brought down from the *hastinakha* to earth by the horses," seems to refer to a place or structure on the rampart. Amara's gloss is *pārdvāri mṛtkaṣaḥ* "a *kūṣa* made of earth at the city gate."

The word also occurs in *Kauṭīliya Arthasāstra*, p. 53 of Shamasastry, the Dictionary citing only Shamasastry's translation s.v. *gṛha-vinyāsa*. Here too, *hasti-nakhas* are connected with the gate and rampart of a fort. Meyer's version, p. 71, given hers with slight modification, is much to be preferred: "For access, an 'Elephant's nail,' level with the opening of the gateway, and a drawbridge (*samkramaḥ samhārya*); or in case there is no water (for a moat), a causeway made of earth." The *hasti-nakha* is here then presumably a pillar with an elephant capital, standing in the moat, to receive the drawbridge when the latter is let down upon it, or pushed out onto it.* It is not impossible that the term *hasti-nakha*, by an extension of the original and strict meaning, had come to be applied also to the drawbridge itself, and even to the causeway.

The *Śiṣupālavadha* passage would then imply simply the bringing of the chariots across the drawbridge, or, as understood by Amara, across the causeway of earth which takes its place when there is no water; and thence onto the solid ground.

Cf. *Keśanakha-stūpa*, s. v. *Stūpa*, not explained (Feer, *Avadhāna Sataka*, p. 487), but possibly with some reference to a lion capital.

Hasti-prākāra, see *Prākāra*.

Hasti-prṣṭha, *gaja-prṣṭha*: this appropriate name is applied to the buildings with apsidal structures, common in Pallava, Coja, and later Dravidian work (see accompanying Plate). The reference on p. 159 to *Indian Antiquary* XII should be corrected to XL. On p. 398 *hasti-prṣṭha* single-storeyed buildings are said to have an "oval steeple"; read instead "apsidal roof." The Professor elsewhere often refers to oval buildings, perhaps meaning apsidal; an oval plan is unknown to Indian architecture.

* Or, if we read *asamhārya*, then supporting a fixed bridge.

Janāgāhara: hot bath room, *Mahāvamsa*, XV, 31, not in the *Dictionary*, though described without citation of the term, *Indian Architecture*, p. 14. *S. B. E.* XIII, p. 157, note 2. *Cullavagga*, V, 14, 3 and VIII, 8, 1; *Mahāvagga*, 1. 25, 12-13.

Kaṇḍāṅkara, Pāli *kaṇḍāgarū*: plank of a stairway, *sopāna*, *Cullavagga*, V, 21, 2.

Kalā: no reference to the *kalās*; see Venkatasubbiah, A., *The Kalās*, Madras, 1911, and *do*, with E. Müller, in *J. R. A. S.*, 1914. The lists include such items as *nagaramāṇam*, *vatthunivesam*, *dārukriyā*, etc.

Kalābhara: artist, expert. According to the *Gautama Dharma-sūtra*, VI, 16, the *kalābhara* who is five years older than oneself should be greeted with respect as *bhoḥ* or *bhavan*. Haradatta explains *kalābhara* as one who lives by the *kalās*, i. e. the knowledge of music, painting, leaf-cutting and the like.

Kaṇḍuka: *kaṇḍukaṇ* . . . *silāmayam* of *Mahāvamsa*, XXXIII, 25, is evidently rightly translated by Geiger as "a mauling made of stone" (for the *Khaudhathōpa*). This must be the correct designation for the "casing" and "casing slabs" of archaeologists.

Kapota: should be translated "roll-cornice," "larmier." It is the main cornice of a building, derived from the edge of the thatch and the primitive drip-stone cut above cave dwellings to prevent the rain from running in. The synonyms of *kapota*, *candra*, *lupā*, *gopāna*, are significant; see *candra-sālā*. The rendering of *kapota* by "spout" should be avoided. As *pālikā* is abacus, *kapota-pālikā* should be a fillet above the *kapota*. Kern is undoubtedly right in rejecting the meaning "dove-cot," so also in the case of *viṣaṅka*. *Mṛcchakaśika*, I, 51 has *kavālapa-viṣaṅka*, glossed *kapota-pālikā upariṅga* and translated in *H. O. S.* "dove-cot"; "dove-ridge" would be better. In reliefs, birds are commonly represented as perched on roofs and mouldings. Utpala's definition of *kapota-pālikā* quoted on p. 111 of the *Dictionary*, amounting to "corbel-ended timbers above the *kapota*" is quite intelligible, as these being seen end on, and coming between the top of the *kapota*, and the bottom of the next member above (as often represented in the early reliefs), are related to the *kapota* precisely as the abacus is related to the rest of the capital below it and the entablature above it.

Kappiya-bhāmi: not in the *Dictionary*. "Outhouse site," *Mahāvagga*, VI, 33, 2 = *S. B. E.*, XVII, p. 119.

Kammāra, Pāli *kammāra*, *Mahāvagga* I, 48 etc., Sinhalese *kammālar*: not in the *Dictionary*. Artisan, smith, etc. *Kammāra-bhaṇḍu*, workers in metals, *Mahāvagga*, I, 48, 1. Highly esteemed by king and people, *Jātaka*, III, 281. The viceroy of Kṛṣṇarāya of Vijayanagar exempted *kammālar* from taxation (*A. S. I.*, *A. R.*, 1908-09, p. 184). Prakrit *kamāra*, see Charpentier, *Uttarādhyayanāsūtram*, p. 351. See also my *Indian Craftsman*, and *Mediaeval Sinhalese Art. Kammāra-sālā*, smithy.

Karṇa-kila, "the ear rod, fastened with iron (nails), along the sides of a house, and according to which the house is to be built," *Arthaśāstra*, III, 8. Probably the frame-work of four beams which rests on stone supports, cf. *Mediaeval Sinhalese Art*, Pl. VII, fig. 7, at the level of the man's waist.

Kaṭaka: add, a position of the fingers used in dancing, and seen in the hands of images holding flowers. See Rao, *Elements of Hindu Iconography*, I, p. 16; and *Mirror of Gesture*, p. 31. In this sense, synonymous with *siṃhakarṇa*.

Kaṭi-sūtra: in the sense of girdle, *Cullavagga* V, 2, 1. Technical terms for special forms, *ib.* V, 29, 2.

Keyūra: armlet, cf. *kūyura* in *Cullavagga*, IV, 2, 1, S. B. E. XX, p. 69.

Khaṇḍa, door (the actual leaf or leaves), *Arthaśāstra*, III, 8. Meyer makes it a single leaf. Shamasastri renders as equivalent to *kavāṭa*; the choice depends on the meaning assigned to *anivāra* in the same passage. The door in any case would open inwards, hence Meyer's rendering with reference to the obstruction of space between two houses cannot be quite correct.

Kiñcikha-pāsāṇa: *Mahāvamsa*, XXXIV, 69, stones apparently used as paving slabs round a stūpa, probably so called as being very smooth (cf. Skt. *kiñjalka*, filaments of a lotus). Childers gives the form *kiñjakkha-pāsāṇa*.

Kiṇikini-jālaya: network of bells adorning a *vedikā*, *Mahāvamsa*, XXVII, 16. Often seen on Bharhut and other early rail-copings.

Kirti-vaktra: add synonyms *kirti-mukha*, *makara* (i) *-vaktra*, *makara-patra*, *siṃha-mukha*; and Sinhalese *kibihi*, and *kāla-makara* of Dutch archaeologists. The inclusion of the term in the *Mānasūtra* shows that the text cannot antedate the Gupta period, for the *makara* face as the crowning element of a *torāṇa* is not developed before that time at the earliest, the crowning element in earlier types being plain or having the form of a *triśūla* or *śrīvatsa*.

Kośa-grha, store room, treasury: has triple underground cellar with many chambers, amongst which is a *devatā-vidhāna*, or chapel, with images of the *Vāstu-devatā*, Kubera, etc., *Arthaśāstra*, II, 5.

Koṣṭhagāra: a pair of storehouses are referred to by this name in the Sohgaura plaque inscription, and illustrated on the same plaque (Fleet, in *JRAS*, 1907). They are described as *trigarbha*, having three rooms; Fleet discusses this at length, but it is evident from the illustrations that these rooms are on three storeys, for the storehouses are represented as small three-storeyed pavilions; it is true that the roof of the top storey is "out of the picture," but its supporting pillars can be clearly seen. For another use of *garbha* as designating chambers of a many-storeyed building see under *Prāsāda*, the *Lohapāsāda*. See also *prakoṣṭha*, s. v. *grha*, *dvara-koṣṭhaka*, and *kunḍa*.

Kādu, see s. v. *candra-sālā*.

Kumbha (and *kalāṣa*): I cannot see any evidence in the texts cited to justify the translation "cupola." The jar in question has actually always the form of a jar, and is placed *above* the dome, cupola, spire, *amalaka*, roof-ridge, or whatever otherwise forms the top of a building. *Kumbha* also = temples of an elephant, see s. v. *hasti-nakha*.

Kuṇḍa: a bowl used as a rain-gauge (*varṣamāna*) and placed in front of a granary (*koṣṭhagāra*) (*Kauṭilya, Arthaśāstra*, II, 5).

Kuṇḍika: should be equated with *kamaṇḍalu* (not in the *Dictionary*) and explained as the water-pot carried by Brabmanical hermits and Buddhist monks, and provided with two openings, one a funnel at the side for filling, the other at the top of the neck, which is also the handle. Many examples have been found on Indian Buddhist monastic sites. The *kuṇḍikā* is carried only by deities of ascetic type especially Brabmā and Śiva, and by *ṛṣis*, and should not be confused with the *amṛta-kalāṣa*, which has only one opening, and is carried by other deities, especially Indra and Maitreya. A full discussion of the Indian and Chinese forms by the present writer and F. S. Kershaw will appear in *Artibus Asiae*.

Kūṭāgāra: regarding the *kūṭāgāra-sālā* in the *Mahāli Sutta* of the *Dīgha Nikāya*, Buddhaghosa, *Sumaṅgala-Vilāsinī*, p. 309, has the following, which I quote here from a letter received from Mrs. Rhys Davids: "In that wood they established a Saṃgha-park. There, having joined the *kaṇṇikā* (ear-thing, corner of the upper storey) of the pillars (*thambha*, lit. supports) above by the *saṃkkhepa* (bolding together, fastening together) of the *kūṭāgāra-sālā*, they made the *pāsāda* (terraced or balconied mansion) like to a mansion of devas. With reference to this the Saṃgha-park was known as the *Kūṭāgāra-sālā*." Here, cf. *saṃkkhepa* with *kṣepaṇa* in the sense of cornice; but I suspect a reference to brackets connecting pillars and *kaṇṇikā* (the *Dictionary* has *kaṇṇikā* = upper part of the entablature); such brackets are very frequently represented in the early reliefs (Bharbut and Sāci). Acharya's Index has no entry under "bracket," but there must have been a word or words in use for so common a structural feature.

Geiger's "balconied windows" for *kūṭāgāra* in *Mahāvamsa*, Ch. XXVII, is scarcely satisfactory; the *pāsāda* of nine storeys has 100 *kūṭāgāras* on each storey, and little pavilions, *pañjara* or (*candra*) *-sālā* seem to be meant, such as are very common in Pallava architecture; e. g. at Māmallapuram, and cf. Jouveau-Dubreuil, *Davidian Architecture*, fig. 4. The pavilion occupied by the Bodhisattva while in his mother's womb is called a *kūṭāgāra* (*Lalitā Vistara*, Ch. VII).

As Pāli *pañña-kūṭi* and *pañña-sālā* are synonymous designations of hermits butts, and as these are always single-storeyed cells, it follows that *kūṭa-sālā* need not be a room on the top of a building.

I am inclined to suppose that *kūṭāgāra* generally means simply "a

house with a finial (or finials)." Cf. *kāṣṭha*, "finial" (vase) in inscriptions cited in *Dict.*, p. 708. *Gaṇa-kāṣṭha*, *Jātaka*, I, 76. In Ceylon in the eighteenth century the use of such finials was permitted only in the case of devāles, viḥāres, resthouses, and the houses of chiefs of Disāva or higher rank. On this analogy the ultimate meaning of *kāṣṭhagāra* would be "honorable building." In all the early reliefs, palaces, city gates, temples, etc., are duly provided with finials, while village houses lack them.

Kuṣi: not in the Dictionary as a separate word, but cf. *gandha-kuṣi*.

In the *Sālagarā* (= *Isānabali*) ritual of the *Grhya Sūtras* (citations in Arjunan, *Rudra*, pp. 104 ff.) *kuṣi* = *āyatana* in the sense of shrines erected for Isāna, Miṣṇa and Jayanta.

Under *gandhakuṣi* add: see full discussion in *A. S. I., A. R.*, 1908-07, pp. 97-99, with *mālagandhakuṣi* and *śailagandhakuṣi* cited from *Sarnāth* inscriptions. Reference should also be made to the Sūfī relief, north toraṇa, left pillar, front, second panel, showing the Jeta-vana garden with the Gandhakuṣi, Kosambakuṣi, and Karorikuṣi (Marshall, *Guide to Sanchi*, p. 58), "the three favorite residences of the Buddha." Further references: Kern, *Manual of Indian Buddhism*, p. 28; Cunningham, *A. S. I., Reports*, XI, pp. 80 ff.; Sahni and Vogel, *Sarnāth Catalogue*, p. 19, 211; Grünwedel, *Buddhist Art in India*, p. 16.

In the *Maṇimekhalai* the small temple of Campāpati, patron deity of Puhār, is called a *guṣikā*.

Kappiya-kuṣi, vacca-kuṣi, Cullavagga, VI, 4, 10.

Lepa: medium, glue, should be distinguished from *sudhā*, plaster. *Vajra-lepa*, "adamantine medium," actually glue, see recipe in the *Silparatna*, Ch. 64 (my translation in *Sir Ashutosh Mookerjee Memorial Volume*); *Mediaeval Sinhalese Art*, pp. 118, 119. Cf. *Uttara Rāmācarita*, III, 40.

Sudhā-lepya, plaster and paint, Bodhgayā, 6th-7th century inscription, *A. S. I., A. R.*, 1908-09, p. 154.

Likh: additional to the common meanings is that of "turning" (wood, etc.). *S. B. E.*, XX, 78, note 3, is wrong in supposing that turning was unknown to ancient India. Metal, wood, and ivory are all turned at the present-day by means of hand-power devices quite unlike the European lathe (see *Mediaeval Sinhalese Art*, Pl. VI, fig. 4, for ivory, and remarks ib. p. 141); turned stone pillars are highly characteristic of Chalukyan architecture (cf. Rea, *Chalukyan Architecture*, p. 5); and turning is certainly involved in the manufacture of many objects represented in early reliefs. It is significant that the Sinhalese name of the grooved spindle used in turning is *liyana kanda*, and the word *liyana* corresponds to *likhitum* used in *Cullavagga*, V, 8, 1 and V, 9, 2 with reference to turned wooden bowls and bowl-rests. A meaning, "to turn wood, etc." should therefore be given in Pali and Sanskrit dictionaries under *likh*. *S. B. E.*, loc. cit., trying

to escape the meaning "turning" goes so far as to speak of using an adze on metal; a comical idea, if regarded from the standpoint of practical craft.

Another reference to turning will be found in the *Mahāsatipatṭhāna Sutta* (D. N. II, 291 = *Dialogues*, 2, p. 328), "even as a skilful turner (*bhama-kāra*)"; the simile, ("drawing his string out at length," etc.), implies the actually surviving Sinhalese technique.

Steatite boxes "turned on the lathe," found at Bhīṭā and assigned to the eighth century B. C., are described in A. S. I., A. R., 1911-12, pp. 43, 93. For some other references to early turned objects see *Rūpam*, 32, pp. 122-123.

Linga: the following references are of interest in connection with the Deva-Rāja cult in Java and Cambodia: Simpson, in *JRAS*, 1888 cites numerous instances and regular practice of erecting lingams over the burial places of dead sannyāsins. In A. S. I., *Southern Circle*, 1911-12, p. 5 "sannyāsins are not cremated, but buried, linga shrines or brindāvana being raised to mark the spot." *Id.* 1915-16, p. 34, quoting *S. I. Ep.*, 1914, "In the case of Sannyāsins . . . a raised masonry platform is sometimes set up over the place of burial, on which a tulsi plant is grown, or a stone lingam is set up as though to proclaim to the world that the body buried below has attained to the sacred form of Siva-linga." E. Carpenter, *Light from the East, being Letters . . . by the Hon. P. Arunachalam*, 1927, p. 63, quoting a letter from the latter regarding the tomb of his guru, "On the site where his body is interred is a lingam to which the worship is offered as to the Master." For the Deva-Rāja cult and its supposed South Indian origin see F. D. K. Bosch, "Het Linga-heiligdom van Dinaja," *Tijdschr. T. L. en Volkskunde*, LIV, 1924.

Loha: is not iron, but brass or copper, bronze, etc. I do not think that any example of an Indian image made of iron could be cited. The roofing of the Lohapāsāda (*Mahāvamsa*, Ch. XXVII) was of copper or bronze. In *Mahāvamsa*, XXIX, 11, *loha-paṭṭa* is a sheet of copper used in the foundations of a stūpa, but we find *ib.* 12, *ayo-jāla* when an iron trellis is designated. One of the most important architectural references to *loha* is Mahendravarman I's inscription at Maṇḍagapattu (Jouveau-Duhreuil, *Conjeveram Inscription of Mahendravarman I*, Pondicherry, 1919); here brick, timber, *loha*, and mortar are mentioned as customary building materials. Copper nails are common finds on ancient sites. Other examples of *loha* will be found in the *Dictionary* under *śbhāsa* (!). Cf. also Sinhalese *pas-lo*, an alloy of five metals.

Loṣṭa: the use of *loṣṭa*, probably slag, in preparing a *kiṭṭa-lekhaṇi*, should be noted (*Silparatna*, Ch. 64).

Makara-torapa: hardly an arch "marked" with a *makara*, but one springing from two *makaras*, and usually crowned by a full-faced *makara* or *makari*.

Mañca: cf. *tañkita mañca*, stone couch, the altar of a *yakkhacetiya*, viz. the *bhavana* of the Yakkha Sucioma (*Saṃyutta Nikāya*, X, 3, P. T. S., ed. p. 207), glossed *pāsāna-mañca*, thus synonymous with *śilā-paṭṭa*, see my *Yakgas*, p. 20, note 3 (*veyaḍḍi*).

See also *S. B. E.*, XX, 87, note 2, *ib.*, 168, note 3; and 278, note 3; *Mahāvamsa*, XXVII, 39. Also Geiger, *Mahāvamsa*, translation, p. 204, note 3; the text has *bodhiṃ ussisakam . . . sayanam* but this means the *vajrāsana* at the foot of the Bodhi tree (the description is of the *Māraṇḍhrasāṇa*), certainly not the *Parinibbāna mañca*. *Heṭṭhamañca*, *Jātaka*, I, 197, probably the earthen bench outside a hut. *Mañcapāṭhāna*, space for a couch, *Cullavagga*, VI, 11, 3 (Commentary). Cf. s. v. *Paṭṭa*, *Sthāna* and *Vedikā*. *Re S. B. E.*, XX, 278, note 3, I see no reason why the *paṭipādaka* of a *mañca* should not be fixed legs; no ancient representations or modern examples have trestles. The only trestles occur in connection with tables (*hattha-piṭha* of *Sumaṅgala Vilāsini*, II, 20, text 1, 163, and as seen on early reliefs) and modern *daṇḍāsana* (*Medieval Sinhalese Art*, Pl. X, 1). *Piṭha* of the *Cullavagga* may include both *hattha piṭha* and *pāda*, tables and footstools, hardly "chairs."

The fact that *mañca* and *piṭha* were cleaned by beating does not prove that they were stuffed or upholstered: the actual support may have been made then as now of plaited cane or plaited webbing and anyone who has had experience of such beds will realise that they frequently need airing and beating.

Meru: reference should be given to E. B. Havell, *The Himalayas in Indian Art*, and W. Foy, "Indische Kultbauten als Symbole des Götterbergs," *Festschrift Ernst Windisch*, 1914.

Nāga-bandha: is said to be a kind of window, and this would evidently be a perforated window with a design of entwined serpents; there are some in the early Cālukyan temples, and one more modern is illustrated in the Victoria and Albert Museum, *List of Acquisitions*, 1926, fig. 74. Cf. Sinhalese *nāga-dangaya*. But *nāga-bandha* also means both in Ceylon and in southern India, the stop of a chamfer (*Medieval Sinhalese Art*, pp. 88, 129, and Jouveau-Dubreuil, *Dravidian Architecture*, pp. 10, 25, 42 and fig. 17); this stop often approximates in shape to a cobra's hood. Cf. *nāga*, s. v. *candra-sālā*.

Nagara: add reference to the detailed description of a city in *Milinda-pañha*, V, 4 (also *ib.* I, 2 and II, 1, 9); the terms *nagara-vaḍḍhakkī*, *daṭṭha-gopura*, *gopura-aṭṭāla*, *koṭṭhaka*, *devaṭṭhāna* occur. Another good description of a city is cited in Barnett, *Antagada Dasā*, p. 1, from the *Aupapātika Sūtra*.

Nāgara: the meaning "secular" as contrasted with *satya*, "sacred," *vainika*, "lyrical," and *miśra*, "mixed," should be cited from the *Vipṣudharmottara*, in relation to painting.

Nārāca, etc.: the Dictionary has only "a road running east." In the

*Sihāṇḍa Sūtra** we have *vajjo-risāha-naraya-saṅghayaṇe* = *vajra-rṣabha-nārāca-saṅghayaṇe*, meaning "with joints firmly knit as if by mortise, collar, and pla." Hoernle, *Uvāsagadosāo* cites Abhayadeva's Sanskrit commentary, according to which *vajjo* = *kiliko*, *risāha* = *pariveṣṭana poṭṭa* or encircling collar, *nārāya* = *ubhoyato-mokaṣa-bandha* or double tenon and mortise joint, and *saṅghayaṇa* = scarf-joint, five kinds being enumerated (for illustration of one see *Mediæval Sinhalese Art*, fig. 75). One would have thought that *vajjo* simply meant "firmly." As regards *pariveṣṭana poṭṭa* cf. *Mahāvagga*, V, 11, "Now at that time the Vihāras were bound together by thongs of skin," explained by Buddhaghosa (cited *S. B. E.*, XVII, p. 31) as referring to the tying together of *bhitti-daṇḍakāḍḍi* "wall posts, etc." This would seem to have been natural in the case of the wattle and daub walls of the simple *paṇṇa-sālā*; but we do also find early pillars decorated with designs of interlacing ropes or thongs which may be vestigial ornament, and the roof of the shrine of the Turban-relief at Sāñci (south gate, left pillar, inner face) is bound by crossing ligatures which could only be described as *pariveṣṭana poṭṭa*. *Atharva Veda*, IX, 3 refers to the parts of a house that are knotted and tied (*naddha*). A house (*sālā*) with grass sides has beams (*vaṁṣa*), ties (*nohana*) and binding (*prāṇḍha*), clamps (*saṁdamāsa*) and "paladas" and "poriṣvoṇḍaleyo." See also *Upamit*.

Cf. *Mediæval Sinhalese Art*, p. 114, "Nails were not used in ordinary building, but everything was fastened with rattans and other jungle ropes." This refers to modern village practise.

Nogononmilana: p. 88 in *Indian Architecture*: my detailed account of the *netra-manigalya* ceremony should be cited, *Mediæval Sinhalese Art*, p. 70 f.

Pōḍuka: should be cited also in the sense of sacred footprints, used as a symbol (*śrīpāda*, *Viṣṇupāda*, etc.). The *vocca-pāduka* of a latrine are also of interest, see *S. B. E.*, XVII, p. 24; good examples have been found on monastery sites in Anurādhapura. Cf. *vacco-kutti*. Numerous lavatory sites are illustrated in *Mem. A. S. C.*, Vol. 1.

Pālīkā: should be translated "abacus," with references to Tamil *palagai* Jouveau-Dubreuil, *Dravidian Architecture*, pp. 10, 25, 42, and fig. 17. See also *kapoto* (-*pālīkā*).

Pāṁsu: not in the *Dictionary*. Not translated where it occurs as a permissible building material, Buddhaghosa, *Comm. on Cullavagga*, VI, 1, 2, cited *S. B. E.* XIII, 174; the other permitted materials being brick, stone, and wood. *Pāṁsu*, taking all its uses into consideration, should here be rendered "laterite," a common building material especially in Ceylon. In *Mahāvamsa* XXX, 7-9, where *pāṁsu* is used in making bricks, the word is rendered "sand" by Geiger; but "de-

* Benares edition, p. 413a, cited by Hoernle, *Uvāsagadosāo*, II, Appendix, p. 45.

composed rock," "grit," would be preferable. True sand (*vāṭikā*) would need only sifting, not crushing and grinding as well. In rendering such words some regard must be had both to practical considerations and to the materials actually available in a given locality. In the tropics the country rock decomposes either into true laterites (Sinhalese "cabook") which is soft when cut, but hardens on exposure; or into a friable sandy grit; both of these have their use in building. Of course, there are many places where *pāṃsu* means simply earth, dust, refuse, etc., cf. *pāṃsu-kāla*, rags from a dust-heap. See also *śarkara*, s. v. in *Diot.* and under *ābhāsa*.

Pañcāṅgula: *hattha-bhitti* of *Cullavagga*, VI, 2, 7 explained by Buddhaghosa as *pañcāṅgula bhitti*: *pañcaṅgulika-pantikā*, *Mahāvamsa*, XXXII, 4; *pañcāṅgulitale*, *Aupapātika Sūtra*, § 2. Possibly colored impressions of the human hand such as one not uncommonly sees on house walls, more likely a five-lobed design such as the palmettes which are so characteristic of early Indian decoration. In all the above passage we have to do with ornament applied to walls or to cloth. Cf. the "three-finger ornament" of Annandale, N., *Plant and animal designs . . . of an Uriya village*, Mem. A. S. B., VIII, 4, fig. 2.

Pañjara, which has, like *candra-śāla-vātāyana*, the double significance of "attic" and "dormer window" (see Jouveau-Dubreuil, *passim*), occurs in the latter sense in *Jātaka*, III, 379, "looking down from an open window (*vaṭṭasiḥapañjarena*)."
Cf. *Mahāvamsa*, XXVII, 16.

Ratha-pañjara, the body of a carriage, *Jātaka* II, 172, IV, 60.

Parikhā: *Mahāvamsa*, XXV, 48 *timahāparikhā*, "having a great triple moat." See also under *Harṃya*.

Paṣṭa: no reference to the meaning "frontlet," except that under *vīrapaṣṭa* we find "front-plate." In the story of Udayaka, Jacobi, *Ausgewählte Erzählungen*, p. 32, a *soṇṇa paṣṭo* is used to cover the hand on a man's forehead and is contrasted with *mauḍa*, a turban or crown. In Ceylon the gold forehead plate used in investiture is called a *nalai-paṣa*, those thus honored being known as *paṣṭa-benda*. In *Prabandhacintāmaṇi* we get *paṣṭa-hastin*, state elephant; now elephants do not wear turbans, but do wear jewelled bands round the temples. In *Bṛhatsamhitā* the section on *paṣṭas*, which are not worn by those of the highest rank, seems to imply the meaning frontlet. Even *Mahāvamsa*, XXIII, 38, *dukūlapaṣṭena vāḥṇitvā* may refer only to the tying on of a fillet, though "turban" seems plausible. No reference to *paṣṭa* in the sense of stone slab, etc. See *Mālavikāgnimitra*, III, 79 (*śilāpaṣṭaam*), and Hoernle, *Uvāsagodaśā*, II, p. 107; *śihala* (*śihāla*) as synonym, *Mālavikāgnimitra*, IV, 132. *Loha*, and *śajju-paṣṭa*, sheets of copper and silver, *Mahāvamsa*, XXIX, 11-12. *Pāṣika*, stone slab at the foot of the steps, *Mahāvamsa*, XXXI, 61; other terms current in Ceylon for "moonstones" are *handa-kaḍa pahana* (= *candra-khaṇḍa pāṣāṇa*), and *iri-hauda gala* (= *sūrya-*

candra kala). *Ordhva-paṭṭa*, "stela," should also be noted. *Yoga-paṭṭa* is the braid used by hermits to support the knee when seated on the ground. *Cullavagga*, V, 11, *pañca-paṭṭika*, perhaps a "cupboard with five shelves." See also under *nāṛāca*.

Phalaka: commonly a panel for painting on. Add: *appaṣena**, a board to lean against, when seated on a couch, to protect the walls, *Cullavagga*, VI, 20, 2, and VIII, 1, 4. *Phalakattharasayana*, a wooden bed, *Jātaka*, 1, 304. A kind of cloth, *Mahāvagga*, VIII, 28, 2 (see note in *S. B. E.*, XVII, 246), and *Cullavagga*, V, 29, 3. See also s. v. *Arghya* and *Pralamba*.

Prākāra: an important reference is misplaced under *prāsāda*, *Dictionary*, p. 419. The Beṇṇagar inscription (*Mem. A. S. I.*, No. 4, pp. 128, 129) should be cited (*pājā-silā-pākāra*); also Khāravēla's inscription at the Hāthigumphā, Udayagiri. The *Mahāvamsa*, XXV, 30, has *ucca-pākāra*, rampart; ib. XXXIII, 5, *hatthi-pākāra* in the sense of the hasement retaining wall of the platform of a stūpa, with the foreparts of elephants projecting in relief (see also Parker, *Ancient Ceylon*, p. 284). *Cullavagga*, V, 14, 3 and elsewhere has *itṭha*, *silā*, and *dāru*-*pākāras*. Other references, *Mysore A. S. Reports*, 1913-14, pp. 8, 14 and 1910-20, pp. 2, 3, 5. In *Kauṣṭhīya Arthaśāstra*, 53, "rmpart" rather than "parapets." *Pākāra* = wall round a park, *Buddhaghosa*, *Sumāṅgala Vilāsini*, I, p. 41.

Pralamba (-*phalaka*): reference should be made to the illustration of a *pralamba-phalaka*, fig. 94 in my *Medieval Sinhalese Art*, and the full explanation of its use there given according to the *Sāriputra*, as the *Bimbamāna* (see *Dictionary*, p. 768) is called in Ceylon.

Pramāṇa: the single meaning given, "measurement of breadth" is insufficient. *Pramāṇa* in the sense of "ideal proportion" appropriate to various types is one of the *śaḍāṅga* of painting, given in Yaśodhara's Commentary on the *Kāmasūtra*. See also Masson-Oursel, "Une connexion dans l'esthétique et la philosophie de l'Inde, La notion de *Pramāṇa*," *Revue des arts asiatiques*, II, 1925 (translated in *Rāpan*, No. 27/28). *Pramāṇa* = land area specified in grants, see Thakur in *Sir Ashutosh Mookerjee Memorial Volume*, 1928, p. 80.

Prāsāda: No reference to the Bharhut relief with inscription *Vijayanta pāsāda*, the only early *prāsāda* identified as such by a contemporary inscription; it is a three-storeyed palace (see *HIIA*, fig. 43); we possess so few positive identifications of this kind that none should be omitted. The Lohapāsāda described in *Mahāvamsa*, Ch. XXVII, was an *uposāṭha* house of nine storeys each with 100 *kūṭāgāras* "provided with *vedikās*, and it contained 1000 chambers (*gabbha*). It was covered with plates of copper, and thence came its name" (ib. XXVII, 42); it was of wood, as it was later burnt down (ib. XXXIII), and rebuilt with only five storeys; the stone pillars on which the superstructure was erected are still standing at Anurādhapura. The Sat-

mahal-pāsāda at Polonnāruva should also be mentioned (*IIIA*, fig. 287). See also under *grha*.

Punya-sālā, -*grha*: not in the Dictionary. Both have been thought to refer to temples, but the meaning *dharmasālā* is far more probable, as pointed out by Hopkins, *Ēpic Mythology*, p. 71 (*ib.*, 70-73 contains a very valuable discussion of images and temples as referred to in the *Epics*).

Raṅga, *raṅga-bhāmi*, *nāṭya sālā*, *prekṣa-grha*, etc.: not in the Dictionary. No citation in the Dictionary of the *Nāṭya-sāstra*, where the construction of theatres is described at some length, with much use of technical architectural terms. A *raṅga-bhāmi*, stage, set up, *Mahāvamsa*, XXXI, 82. *Raṅga*, *Jātaka* II, 152.

Rathakāra: "car-maker," carpenter, not in the Dictionary. A *sūdra*, but connected with Vedic sacrifices; a *snditaka* may accept food from one (*Baudhāyana DhS.*, I, 3, 5 = *S. B. E.*, XIV, 159). Much information on the social position of craftsmen and related subjects is given in my *Indian Craftsman*, apparently unknown to the author: see also *karmāra* and *āveṣaṇin*, above, and *rāpakāra*, below. *Rathakāra* in inscription of Virūpākṣa I, *A. S. I.*, *A. R.*, *Southern Circle*, *Epigraphy*, 1915, p. 108.

Rūpakāra: sculptor, not in the Dictionary. But the Śilpin Rāmadeva, son of the *rāpakāra* Suhaka, inscription at Dhar, *A. S. I.*, *A. R.*, 1903-04, p. 240, is cited under Rāmadeva. Reference should be given to śivamitra, a *śela-rāpakāra* of Mathurā, mediaeval inscription at Śrāvastī, *A. S. I.*, *A. R.*, 1908-09, p. 133. For Buddha-rakṣita, a *rāpakāraka*, see Cunningham, *Bharhut*, inscription No. 42.

Sabhā: the Bharhut relief with inscription *Sudhammā Deva-sabhā*, a pillared circular shrine with cornice and dome is not cited (*IIIA*, fig. 43). See also *Saṃyutta Nikāya*, XI, 3, 5 = *Kindred Sayings*, I, p. 307, and *Dīgha Nikāya*, II, 207-209.

In *Jātaka* VI, 127, the *Sudhammā-sabhā* of Indra has octagonal columns (*aṭṭhamasa sukātā thambhā*). The description of the heavenly *sabhās* in *Mbh.* II, 6-11, is altogether vague.

Sahasra-līṅga: not a "group" of a thousand phalli, but one *lingam* with a thousand facets, representing a thousand *liṅgas*. A good example at Śrīśailam, *A. S. I.*, *Southern Circle*, 1917-18, Pl. V.

Samudrāgāra: a summer house by a lake, *Mālavikāgnimitra*, Act IV. *Samuddavahāra*, a monastery on a river-bank, *Mahāvamsa*, XXXIV, 90. *Samuddapaṇṇa-sālāya*, *ib.* XIX, 26, a hall built on the sea-shore. Cf. the pavilions on the bund at Ajmer, and the island palaces at Udaipur.

Santhāgāra: "mote-hall," with a central pillar (*majjhima-tthambam*), *Dīgha Nikāya*, III, 209 = *S. B. B.*, IV, 202.

Silpa: in the Atharva Veda, a "work of art" (*Bloomfield*, *Atharva Veda*, p. 70).

Silpa-sāstra: Hsüan Tsang's reference to five *vidyās*, of which the *silpa-sikhāna-vidyā* is one, is important as proving the existence of technical works on *silpa* in his day (Beal, Records, I, p. 78). The much earlier *Sulva Sūtras* are effectively *Silpa-Sāstras*, though not actually so designated.

Sivikā-garbha, *sivikā-gabbha*: an inner room shaped like a palanquin, *Cullavagga*, VI, 3, 3. Glossed by Buddhaghosa as *caturassa*, four-sided. What may be meant may be gathered from the elaborate *sivikās* represented in Amarāvati reliefs, where their design is quite architectural (Burgess, *Buddhist stupas of Amaravati and Jaggayyapeta*, Pl. XI, 2 and p. 55, and Pl. XI, 1).

Sopāna: see a. v. *ālamba-bāha*, *harmya*, *hasti-hasta*, *kaṇṭhaka*, *paṭṭa*.

Sreni: that painters were organised in guilds is apparent from Jacobi, *Ausgewählte Erzählungen in Mahāvastu*, p. 49, where the painter Cittaṅga, "working in the king's *citta-sabha*" belongs to a *seni* of *cittagaras*. It is of interest that his daughter Kanyamañjarī also paints. See also list of 18 guilds in *Jātaka*, VI, 22: other references a. v. *seni* in P. T. S. Pali Dictionary.

Srivatsa (*sirivaccha*): also characteristic for Mahāvīra. The cruciform flower is the later form only; in the Kuṣāna period it is what numismatists have called a *nāga* or *ahimsa* symbol (good illustration on a coin, Rapson, *Coins of the Andhra Dynasty*, pl. VIII, 207, reverse, and on Mahāvīra's breast, Smith, *Jaina Stupa of Mathurā*, pl. XCI, right); the development of the early form into the later can be traced. Also cf. Hopkins, *Epic Mythology*, p. 205.

Sikhāna: the sense of pose, stance, is not given. Five *sikhānas* (frontal, three-quarter, profile, etc.) are defined in the *Silparatna*, Ch. 64, and thirteen in the *Viṣṇudharmottara* (see translation by S. Kramrisch, 2d edition, 1928). *Mahāsikhāna*, sacred area, inscription of Mahāpāia. Samvat 1083, A. S. I., A. R., 1906-07, p. 99: *Nagendrasya . . . Dadhikarnṇasya sikhāne silāpaṭṭo*, Mathura inscription Lüders' List 85, Ep. Ind. I, 390, no. 18, cited Mem. A. S. I., Vol. 5.

Stūpa: no description of the component parts is given: they are *sopāna*, *aṇḍa*, *medhi* or *garbha*, *harmikā*, *yaṣṭi*, *chattrāvali*, *varaṇa-sikhā* or *amṛta-kalasa*. There should be mention of the synonym *dāgaba* (*dhātu-garbha*), and of *eduka* and *jāluka* by which names Buddhist relic shrines are referred to in the *Mahābhārata* (3, 190, 05 and 07). The detailed description of a stūpa in the *Divyāvadāna*, p. 244, summarised by Foucher' *L'Art gréco-bouddhique* . . . I, p. 96, and the detailed account of the building of a stūpa in *Mahāvamsa*, Chs. XXVIII, *seq.* should be referred to; also the full account in Parker, *Ancient Ceylon*. The latter quotes a Sanskrit-Pali text defining the shapes and proportions of *dāgabas*, from the *Waiḍḍyānta-pota* (or *Vaiḍḍiyantaya*) a *silpa-sāstra* well known in Ceylon, but not mentioned in the Dictionary. The *Avadāna Sātaka* mentions three kinds of stūpas—*gandhastūpa*, *keśanakhastūpa*, and *stūpa*—the latter being

the regular *dhātu-stūpa* for funerary relics. The *Dhammapada Atthokāṭhā*, XXI, 1-290, H. O. S., Vol. 30, p. 175, has a *stūpa* built over the body of a Brahman's son who had become a Buddhist monk. Were *stūpas* ever erected by others than Buddhists or Jains? In Kāśyapa's Conversion at Sāñci (east gate, left pillar, inner face, third panel) a railed *stūpa* forms part of the Jāṭila ārāma: so also at Anurāvatī, Fergusson, *Tree and Serpent Worship*, Pl. LXXXVI.

Stūpikā: *cetiyyasīsa kirīṭṭh viya kanakamayam thūpikam ca yojetvā* (*Aṭṭanaguluvāṃsa*, Alwis, IX, 7). Dome of a palace, *Mahāvāṃsa*, XXXI, 13, with above reference (Geiger).

Cf. *silāthūpaka*, *Mahāvāṃsa*, XXXIII, 24, "a little stone *stūpa*," probably actually the *stūpa* of H. I. I. A., fig. 292. But the usual meaning of *stūpikā* (as given in *Dict.*), is "dome." I do not think this terminology implies a derivation of the dome from the *stūpa*, but only a resemblance of form. Granting the recognized resemblance, however, the point is of interest in connection with the origin of the bulbous dome, for many early *stūpas* are markedly bulbous. Some Paliava temples have bulbous domes, and even the dome of H. I. I. A. fig., ca. 200 A. D. almost exactly follows the shape of the slightly swelling *onḍa* of the *stūpa* of *ib.* fig. 146.

Sulka-sālā: a toll-house, *Divyāvadāna*, 275, seq. *Sulka-sthāna*, *Artha-sūtra*, II, 3.

Tāla-māna: here reference should be made to many published accounts, e. g. Rao, *Tālamāna*, my *Mediaeval Sinhalese Art*, Ganguly, Orissa and her Remains. On pp. 230, 233, what part of the body is the "hiccough?"

Tṛṇacchādana, Pali *tiṇa-cchādana*: "thatch," *Cullavagga*, *passim*. In *Atharva Veda*, IX, 10, 11, the thatch is called a thousand-eyed net stretched out like an *opāsa* on the parting (*viśuvant*, here = ridge-pole). See also *Upamit*.

Tulā: the meaning "well-sweep" should be added (*Cullavagga*, V, 16, 2); two other means of raising water are mentioned, *loc. cit.*, viz. *karaka-ṭaṅka* literally "pot-edge" or "pot-ridge," probably the "Persian" water-wheel, and *cakkavattaka*, wheel and axle. All three are still in common use.

But is *karaka-ṭaṅka* really distinct from *kara-kaṭaka*, a hand wheel for drawing water?

Upamit, etc.: RV. I, 59, 4 and IV, 5, 1; AV, IX, 3, 1. See Bloomfield, *Atharva Veda*, II, 185, 195; Whitney, *Atharva Veda*, 525; Zimmer, *Altindisches Leben*, Ch. V; etc.

The whole terminology of the *sālā* is difficult, but the rendering of *upamit* as (sloping) buttress (by Bloomfield and by Zimmer) is extremely implausible and almost certainly an error. I suggest *upamit* = plinth or pillar base; such bases were probably, as at the present day, of stone, as a protection against white ants.¹ Then *pratimī*

¹ Cf. *Mediaeval Sinhalese Art*, p. 129, fig. 72, and pl. VII, fig. 7, "Wooden pillars often rest on a stone base as a protection against white ants."

(= *sthāṇa*) are the main upright wooden pillars (corner pillars) set up on the *upamit*; *parimit*, the horizontal beams of the framework, connecting with the *pratimit* by means of mortices or dovetails (*sahdamśa*); * *pakṣa*, perhaps the wall plates; *vamśa*, the bamboo rafters. The roof (*chanda*) is thebed with straw or reeds (*trṇa*): the cut ends of the reeds may have given rise to the designation "thousand eyed" of AV. IX, 3, 8. *Palada* (bundles of grass or reeds, according to Zimmer) and *pariṣvañjalaya* I cannot explain.

The *śikyāni*, ropes "tied within for enjoyment," may have served as partitions, to be hung with cloths so as to divide the interior into separate rooms; the Sinhalese *piliṇṇa* is used in this way, and I remember to have seen an ornamental example carried by a party of travellers for use in a public resthouse to secure privacy.

Vajrāsana: "diamond throne," though well-established, not a good rendering; "adamantine throne" would be better. See E. Senart, "Vajrapāni dans les sculptures du Gandhara," *Congr. Int. Orientalistes, Alger, 1905*, Vol. I, p. 129. *Bodhi-pallakha* in the *Nidānakathā, Jātaka*, I, 75, is an interesting synonym. The Buddha's *āsana* at the Gal Vihārā, Polonnaruwe, Ceylon, is decorated with actual *vajras*, but this probably represents a late interpretation of the term; I know no other instance. See also *Bodhi-maṇḍa* and *Mañica*.

Vāna-lajhī, rafters or reapers? As a protection against the rain, the *vānalajhī* (of a house, *grha*) are to be covered over with straw (*kaṣa*, here thatch rather than straw mats), *Arthaśāstra*, III, 8. Cf. *Yaṣṭi-vana*.

Vapra: in *Kauṣṭhīya Arthaśāstra*, 51, 52, *vaprasapari prākḍram*; "glacis" rather than "rampart," which latter rises above the *vapra*.

Vardhaki: I cannot think of any case where the *vardhaki*, Pali *vaḍḍhaki*, is specifically a painter. The usual meaning is architect, artisan. Cf. *nagara-vaḍḍhaki*, the architect of a city, *Milindapañha*, II, 1, 9. In *Mahāvamsa*, XXX, 5, the 500 *ipphakā-vaḍḍhaki* are certainly not all "master-builders" as rendered by Geiger, but rather brickmakers or bricklayers; even the *vaḍḍhaki* who is their spokesman, *ib.*, 12 is hardly more than *primus inter pares*. *Vaḍḍha*, architect, one of the 14 'jewels' of a Cakravartin, *Uttarādhyaṇasātra* commentary, cited Charpentier, p. 321. Numerous designations of craftsmen will be found in the *śatapatha Brāhmaṇa* list of symbolic victims of the *Puruṣamedha* (*S. B. E.*, XLIV, 413-417).

* *Mediaeval Sinhalese Art*, loc. cit. (p. 129), "where the whole building rests on low stone pillars, the wood pillars are mortised into huge beams forming the framework of the floor."

Vedic *parimit* and Sanskrit *kārṇa-kīla* seem to designate such foundation beams; Vedic *pakṣa* and Sanskrit *kārṇikā* the wall plates forming the framework of the roof. Where we have to do with a colonnade rather than a wall, *kārṇikā* is of course 'entablature.'

Vardhamāna: add "powder-box," one of the *aṣṭamaṅgala* of the Jains. Early illustrations, Smith, *Jain Stupa of Mathura*, pl. VII; later, Hüttemenn, "Miniaturen zum Jinacarita," *Bacasser Archiv.*, 1913, fig. 1. *Vardhamāna-gṛha*, *Uttarādhyayanāsūtra*, IX, 24.

Vastra-nip(y)a: is not "a jar-shaped ornament of a column," but the knotted band or ribbon which so often encircles the *pūrṇa-kumbha* which forms the base or capital of a column, and the *Mānasāra* text cited (*kumbha-madhya*, etc.) is perfectly explicit on this point, "and in the middle of the pot (i. o. round the belly) let there be added a colored band of cloth as a protection." This use of a string or band as protecting charm or "fence" is of course well known in many other connections.

Vāstu, add the meaning "real estate" (Meyer, "Liegenschaft"): "Vāstu includes houses, fields, groves, bridges (or *ghāṭa*, *setu-bandha*), ponds, and reservoirs," *Arthaśāstra*, III, 8.

Vātāyana: the Dictionary citations show that in the *śilpa-śāstras* types of *vātāyana* are differentiated by preceding qualifying adjectives denoting the pattern of the grille or openwork screen. In the light of this fact, and of the varieties of windows represented in reliefs and the types still in common use, the three designations in *Cullavagga*, VI, 2, 2 are perfectly intelligible: *vedikā vātāpāna* is a window with a rail-pattern grille; *jāla-vātāpāna* is one with a trellis grille, lattice; *śalākā vātāpāna*, one provided with upright turned pillars or bars (not "slips of wood"). *Buddhaghosa* glosses *śalākā* as *thambaka*. For turning, s. v. *likh*.

Vedī, vedikā, etc.: *veiyā* of Jacobi, *Ausgewählte Erzählungen*, p. 49, must be marriage pavilion rather than balcony, as marriages always take place in special temporary pavilions erected *ad hoc*.

In the common sense of railing, the *Mahāsudassana Sutta*, I, 60, gives the component parts, viz. *stambha* (uprights), *sāci* (cross-bar), *uṇṇiṣa* (coping), and these words often occur in Prakrit forms in the early inscriptions: also *pliuth*, *alambana*. In *Mahāvamsa*, XXXV, 2, *muddhavedī* is the railing of the *harmikā*, *pādavedī* the railing on the basement level of a *stūpa*; *ib.* XXXVI, 52 and 103 has *pāsāṇa* and *silā-vedī*, "stone railing" (round the Bodhi-tree) rather than "stone terrace" as interpreted by Geiger, p. 296.

Mahāvamsa, XXXII, 4, *vedikā* represented in a painting. *Alambabāha*, the *vedikā* of a *sopāna*, *Cullavagga*, V, 11, 6 etc. See also *kinkini-jālaya*. Cross references to *p(ṛ)ākāra* and *bhitti*, should be given; cf. *bhitti-vedikā* of *Mālavikāgnimitra*, V, 1, where it is built round an *āśoka* tree.

The very curious use of *vedikā* to mean a mode of sitting (*āsana*) is noted by Charpentier, *Uttarādhyayanāsūtram*, p. 371.

Vidyut-latā: Pali, *vijjūt-latā*, *Mahāvamsa*, XXX, 96, the Commentary having *megha-latā nāma vijju-kumāriyo*, "the cloud-vines called lightning maidens." Real lightnings are evidently intended, not mere zigzag lines as rendered by Geiger. Representations of clouds and lightning are very characteristic of Indian painting; certain rooms in the old palace at Bikanir, entirely decorated with a frieze of clouds, lightning, and falling rain may be cited (see my *Rajput Painting*, Pl. VII). The form *vijju-kumāriyo* is interesting, as the lightning is similarly always feminine in relation to clouds in rhetoric, and cf. *Yajur Veda*, IV, 1, 11, *Jātaka*, V, 407 and *Mṛcchakaṭika*, V, 46.

Vimāna: reference should be made to the long and excellent discussion of this word in the P. T. S. *Pali Dictionary*.

Viṇā: as this word and also *karuṇa-viṇā* are separately rendered "flute," there can hardly be a misprint; the proper word is, of course, lute. Two forms are found in the early reliefs, one like a harp, the other like a Japanese *bûwa*. So far as I know the southern *viṇā* with two large gourds as sounding boxes can be seen first in the paintings at Elûra. The parts of a *viṇā* are named in *Milindapañña*, II, 3, 5; see also P. T. S. *Pali Dictionary* s. v.

Historical Architects, add:

Ananda, son of Vāsisṭhi, as above, s. v. *dvēṣaṇin*.

Balaka, pupil of Kaṇha, maker of a *śalikā* at Kondañe, and one of the earliest craftsmen known to us by name (Burgess, *Report on the Buddhist Cave Temples*, 1883, p. 9).

Bammoja, western Caṇḍukya inscription. Bammoja was "a clever architect of the Kali age; the master of the 64 arts and sciences; clever builder of the 64 varieties of mansions, and the inventor (?) of the four types of buildings called Nāgara, Kāliṅga, Drāviḍa, and Vesara" (*A. S. I.*, *A. R.*, 1914-15, Pt. I, p. 29). The description of Kāliṅga as a style is cited in the *Dictionary* from the *Mānasāra*.

Dīpā, builder of the Caumukh temple at Rāṇpur; belonged to the Sompura class of Brahman architects, whose ancestor is said to have built the temple of Somnāth-Mahādeva at Prabhās-Paṭṭan. The Sompuras, not mentioned in the *Dictionary*, are said to have built many temples in Gujarat, to have been at Ahu, and to possess MSS. on architecture. One, Nannā-khumṃā, was in charge of repairs at Rāṇpur; another, Keval-Rām constructed temples at Ahor (D. R. Bhandarkar, "Chaumukh Temple at Rāṇpur," *A. S. I.*, *A. R.*, 1907-08).

Jaita, etc.: an inscription on the window of the second storey of Rāṇa Kumbha's *kīrtistambha* at Chitor (A. D. 1440-49) mentions the architect of the building, and his two sons Napa and Puṇja. On the fifth storey are effigies of the two last, and a third son, Pama.

Another inscription at Chitor mentions the fourth son, Balrāja. See *A. S. I., A. R.*, 1920-21, p. 34.

Sidatba (Siddhārtha), son of Nāgacana, as above, *s. v. āveṣaṇin*.

Śivamitra, as above, *s. v. rūpakāra*.

Mallikārjuna Chinnappa, builder of the Virabhadra temple at Chikkabāl-
lāpur, Mysore, died 1860; there is a tomb (*gaddige*) in a building
to right of the temple.

Treatises on architecture:

Bimbamāna: known in Ceylon as *Sāriputra*. Add reference to trans-
lated passages in my *Mediaeval Sinhalese Art*.

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